

Physical Science

Light – Refraction

Activity – Over the Rainbow

Materials:

- Old compact discs (CDs) (you can buy them for pennies at a garage sale, or go to a record store and they will give you the ones that won't play)
- Sunny day
- Heavy string/ribbon/etc. (pre-cut to length desired)
- Thumb-tacks or something else that will attach the string to the ceiling

Presentation:

1. During circle time, say to the children, "Today, we are going to decorate our room with rainbows."
2. "**Refraction** happens when light travels at different speeds and bends instead of bounces."
3. Say, "Do you remember how the light bent as it passed through the prism and a rainbow was made?"
4. Say, "Today, we are going to make rainbow by using compact disks (CDs)."
5. The teacher should hold up one of the old CDs and say, "This is a CD that won't play any more and we are going to recycle it."
6. The teacher should observe the CD and then carefully and slowly pass it to the next person beside her. Say, "I'm going to pass this CD around so everyone can see what a shiny surface it has on one side."
7. The teacher should say, "Remember, **refraction** happens when light travels at different speeds and bends instead of bounces."
8. "We are going to tie a string to each CD." (Pass out the strings and CDs to the children).
1. The teacher should say, "If you know how to tie a knot you may tie your string to the CD. If you don't know how to tie a knot yet, come up and sit around me and you can watch me do it."
10. After the knots are tied, the CDs are ready to hand from the ceiling.
11. The children should be instructed to sit quietly and watch you or another adult, hang the CDs.
12. After the CDs are hung from the ceiling, invite the children to admire all the rainbows that are made on the walls by the light bending (**refracting**) off their surface.

Variations and Extensions:

1. Use a blindfold

Points of Interest:

1. Notice the big difference between dark and light

Control of Error:

1. Making sure that the room is dark

Aims:

Introduction to light and the concept of **refraction**

Age:

2 ½ and up

Language:

Refraction, light, compact discs (CDs), etc.